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| 10/067,680 | 02/04/2002 | Tsung-Pei Chiang | B-4493 619511-2 | 7127 |

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| EXAMINER | |
|---|---|
| NGUYEN, KEVIN M | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2674 | |

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/067,680 | CHIANG ET AL. | |
| | Examiner | Art Unit | |
| | Kevin M. Nguyen | 2674 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *05 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

This office action is made in response to applicant's amendment filed on April 05, 2004. Claims 1, 11 are amended, claims 12-18 are new, and claims 1-18 are currently pending in the application. An action follows below:

### *Drawings*

1. The drawings 1 and 2 were received on April 05, 2004. These drawings are accepted.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-11 (previously presented) are rejected under 35 U.S.C. 103(a) as being unpatentable over An et al (US 6,335,719) in view of Nomura et al (US 5,881,299).

4. As to claim 1, An et al teach a thin-film transistor (TFT) liquid crystal display panel (10) associated with a method (column 4, lines 25-27) comprising an application specific integrated circuit (ASIC) (column 6, lines 57-58), a liquid crystal panel (10) having the thin-film transistor array is divided into a number of blocks (a plurality of zones, column 3, lines 40-42).

An et al fail to teach a predetermined mode.

However, Nomura et al teach a related display device associated a method comprising a predetermined switch (26), a graphic area (2), and non-graphic area (1) (figure 1, column 4, lines 18-46).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the predetermined switch (26) taught by Nomura et al for An et al's display device because this would provide the display control can be carried out in accordance with an amount of information to be displayed, while reducing power consumption (column 2, lines 43-45 of Nomura et al).

As to claim 2, Nomura et al teach a switch (26) is closed by a cover (32) to save a power when display area (2) is not displayed (the predetermined mode is a standby mode, column 4, lines 41-46)

As to claim 3, Nomura et al teach a display area (1) is a graphic mode (figure 1, column 4, lines 66-67).

As to claim 4, Nomura et al teach the display area (2) is a video mode (figure 2A, column 4, lines 56-57).

As to claims 5 and 6, Nomura et al fail to teach a predetermined mode is dictated by the manufacturer, the graphic and non-graphic region located on a frame are determined by the manufacturer. Official Notice is taken that both the concept and the advantages of providing for displays which include a logo of their manufacturer during standby mode of an arbitrary line of a frame are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have include the logo display in Nomura as these display are known to

provide the operator with a trade name of a product to adverse their product on the market.

As to claims 7 and 8, An et al review the driving type in the graphic region and the non-graphic region using a line inversion and a frame inversion (column 1, lines 21-24).

As to claims 9 and 10, Nomura et al teach the predetermined switch (26) is controlled by a central processing unit (CPU) (10), CPU (10) associated with an operating system for the display screen (figure 1, column 4, lines 36-40).

As to claim 11, An et al teach the ASIC chip associated with a method of signaling and dividing the display area into the plurality of areas (A, B, C, D) (figure 4, column 4, lines 3-8).

5. New claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al in view of An et al.

6. As to claim 12, Nomura et al expressly teach that two display areas 1 and 2 are formed on the display panel 18a...an annunciator shows a residual amount of the battery are display on the area 1 (see col. 4, lines 18-23). The switch controller 24 detects the on/off state of the switch 26. If the switch 26 is changed, that is, it is unnecessary to display information on the area 2 of the display panel 18a, the switch controller 24 notifies the state to the CPU 10 (see col. 4, lines 35-40). Thus, two display areas 1 and 2 corresponds the plurality of zones are grouped into graphic and non-graphic regions, respectively. Two areas 1 and 2 are displayed in accordance with the on/off state of the switch 26 (predetermined mode). Nomura et al further teach the

drivers 18b, 18c, 18d, 18e drive the area 1 and 2 of the display panel 18a (see fig. 1, col. 5, lines 49-51).

Nomura et al teach all the subject matter claimed except for the use of the LCD cell array instead of the TFT array.

However, the LCD array and the TFT array have been recognized in the art as equivalent as evidenced by An et al. An et al expressly teach the benefit of using the TFT array for switching data signals applied to each liquid crystal cell (col. 4, lines 25-28).

Therefore, it would have been obvious to one of ordinary skill in the art to replace the LCD cell array in Nomura et al with the TFT array to achieve the benefit of driving the display panel with an image being displayed at a high speed.

Moreover, where the claimed differences involve substitution of interchangeable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem such substitution has been judicially determined to have been obvious. See In re Ruff, 118 USPQ 343 (CCPA 1958).

7. As to claim 13, Nomura et al teach "the switch controller 24 detects the on/off state of the switch 26. If the switch 26 is changed, that is, it is unnecessary to display information on the area 2 of the display panel 18a, the switch controller 24 notifies the state to the CPU 10" (see col. 4, lines 35-40).

Nomura et al teach all the subject matter claimed except for the use of CPU 10 (fig. 1) instead of an Application Specific Integrated Circuit (ASIC) chip.

However, CPU 10 and the ASIC chip have been recognized in the art as equivalent as evidenced by An et al. An et al expressly teach operating the ASIC chip is the same (col. 6, lines 54-58).

Thus, the combination of Nomura et al's reference with An et al's reference teaches the ASIC chip for selecting the off state (the first mode) and on state (the second mode).

Therefore, it would have been obvious to one of ordinary skill in the art to replace CPU 10 in Nomura et al with the ASIC chip because this would provide the discrete components described in the embodiments of the present invention may be substituted with a programmable processor and a program code to operate the same. Alternatively, the ASIC may also be used as taught by An et al (col. 6, lines 54-58).

Moreover, where the claimed differences involve substitution of interchangeable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem such substitution has been judicially determined to have been obvious. See In re Ruff, 118 USPQ 343 (CCPA 1958).

8. As to claim 14, Nomura et al expressly teach that two display areas 1 and 2 are formed on the display panel 18a... an annunciator shows a residual amount of the battery are display on the area 1 (see col. 4, lines 18-23). The switch controller 24 detects the on/off state of the switch 26. If the switch 26 is changed, that is, it is unnecessary to display information on the area 2 of the display panel 18a, the switch controller 24 notifies the state to the CPU 10 (see col. 4, lines 35-40). Thus, two display areas 1 and 2 corresponds the plurality of zones are grouped into graphic and non-

graphic regions, respectively. Two areas 1 and 2 are displayed in accordance with the on/off state of the switch 26 (predetermined mode).

9. As to claim 15, An et al teach "as a result, in the liquid crystal panel driving method according to the present invention, the polarities of data signals applied to the liquid crystal cells in the liquid crystal panel are inverted every frame (frame inversion), every block and every dot (line inversion)" (col. 4, lines 4-8).

10. As to claim 16, Nomura et al expressly teach that two display areas 1 and 2 are formed on the display panel 18a... an annunciator shows a residual amount of the battery are display on the area 1 (see col. 4, lines 18-23). The switch controller 24 detects the on/off state of the switch 26. If the switch 26 is changed, that is, it is unnecessary to display information on the area 2 of the display panel 18a, the switch controller 24 notifies the state to CPU 10 (see col. 4, lines 35-40). Thus, two display areas 1 and 2 corresponds the plurality of zones are grouped into graphic and non-graphic regions, respectively. Two areas 1 and 2 are displayed in accordance with the on/off state of the switch 26 (predetermined mode). Nomura et al further teach the drivers 18b, 18c, 18d, 18e drive the area 1 and 2 of the display panel 18a (see fig. 1, col. 5, lines 49-51).

Nomura et al teaches all the subject matter claimed except for the use of CPU 10, and the LCD cell array instead of the ASIC chip, and the TFT array.

However, CPU 10, the LCD cell array and the ASIC chip, the TFT array have been recognized in the art as equivalent as evidenced by An et al. An et al expressly teach the benefit of using the TFT array for switching data signals applied to each liquid

crystal cell (col. 4, lines 25-28), and operating the ASIC chip is the same (col. 6, lines 54-58).

Therefore, it would have been obvious to one of ordinary skill in the art to replace CPU 10, the LCD cell array in Nomura et al with the ASIC chip, and the TFT array to achieve the benefit of driving the display panel with a image being displayed at a high speed, and provide the discrete components described in the embodiments of the present invention may be substituted with a programmable processor and a program code to operate the same. Alternatively, the ASIC may also be used as taught by An et al (col. 6, lines 54-58).

Moreover, where the claimed differences involve substitution of interchangeable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem such substitution has been judicially determined to have been obvious. See In re Ruff, 118 USPQ 343 (CCPA 1958).

11. As to claim 17, Nomura et al expressly teach that two display areas 1 and 2 are formed on the display panel 18a...an annunciator shows a residual amount of the battery are display on the area 1 (see col. 4, lines 18-23). The switch controller 24 detects the on/off state of the switch 26. If the switch 26 is changed, that is, it is unnecessary to display information on the area 2 of the display panel 18a, the switch controller 24 notifies the state to CPU 10 (see col. 4, lines 35-40). Thus, two display areas 1 and 2 corresponds the plurality of zones are grouped into graphic and non-graphic regions, respectively. Two areas 1 and 2 are displayed in accordance with the on/off state of the switch 26 (predetermined mode).

12. As to claim 18, An et al teach "as a result, in the liquid crystal panel driving method according to the present invention, the polarities of data signals applied to the liquid crystal cells in the liquid crystal panel are inverted every frame (frame inversion), every block and every dot (line inversion)" (col. 4, lines 4-8).

***Response to Arguments***

13. Applicant's arguments filed April 05, 2004 have been fully considered but they are not persuasive.

14. In response to applicant's argument that claim 1 recites "dividing a Thin Film Transistor array frame into a plurality of zones according to the predetermined mode, wherein the plurality of zones are grouped into graphic and non-graphic regions."

Examiner is not convinced by Applicant's argument. As stated *supra* with respect to claim 1, Examiner finds that the combination of Nomura et al teach a related display device associated a method comprising a predetermined switch (26), a graphic area (2), and non-graphic area (1) (figure 1, column 4, lines 18-46). More details in column 4, lines 18-46 of Nomura et al's reference teach that two display areas 1 and 2 are formed on the display panel 18a...an annunciator shows a residual amount of the battery are display on the area 1 (see col. 4, lines 18-23). The switch controller 24 detects the on/off state of the switch 26. If the switch 26 is changed, that is, it is unnecessary to display information on the area 2 of the display panel 18a, the switch controller 24 notifies the state to CPU 10 (see col. 4, lines 35-40). Thus, two display areas 1 and 2 corresponds the plurality of zones are grouped into graphic and non-graphic regions, respectively. Two areas 1 and 2 are displayed in accordance with the on/off state of the

switch 26 (predetermined mode) [(a)], as modified by An et al, teach the claim 1 limitation of "the thin film transistors (TFTs) array for switching data signals applied to each liquid crystal cell" (see col. 4, lines 25-28).

In response to applicant's argument that claim 1 recites "signaling a control signal by the Application Specific Integrated Circuit to determine the driving type required for each zone according to the plurality zones grouped."

Examiner is not convinced by Applicant's argument. Examiner finds that the combination of Nomura et al teach the drivers 18b, 18c, 18d, 18e drive the area 1 and 2 of the display panel 18a (see fig. 1, col. 5, lines 49-51), as modified by An et al, teach the claim 1 limitation of "the thin film transistors (TFTs) array for switching data signals applied to each liquid crystal cell" (see col. 4, lines 25-28).

15. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner clarifies the motivation of An et al and Nomura et al as describe below:

An et al teach all the subject matter claimed limitation "the ASIC chip, and the TFT array" except for a liquid crystal panel is divided into a number of blocks instead of the use of a plurality of zones according to the predetermined mode wherein the

plurality of zones are grouped into graphic and non-graphic regions, driving type required for each zone according to the plurality of zones grouped.

However, the liquid crystal panel is divided into the number of blocks and "two display areas 1 and 2 corresponds the plurality of zones are grouped into graphic and non-graphic regions, respectively. Two areas 1 and 2 are displayed in accordance with the on/off state of the switch 26 (predetermined mode)", as stated *supra* (see [(a)]), have been recognized in the art as equivalent as evidenced by Nomura et al. Nomura et al expressly teach the benefit of using a plurality of display areas and power consumption can be controlled by controlling the plurality of display areas as taught by Nomura et al(col. 1, lines 10-13).

Therefore, it would have been obvious to one of ordinary skill in the art to replace the liquid crystal panel is divided into the number of blocks in An et al with "two display areas 1 and 2 corresponds the plurality of zones are grouped into graphic and non-graphic regions, respectively. Two areas 1 and 2 are displayed in accordance with the on/off state of the switch 26" to achieve the benefit of a plurality of display areas and power consumption can be controlled by controlling the plurality of display areas as taught by Nomura et al(col. 1, lines 10-13).

Moreover, where the claimed differences involve substitution of interchangeable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem such substitution has been judicially determined to have been obvious. See In re Ruff, 118 USPQ 343 (CCPA 1958).

16. Applicant argues features in the independent claims 12-18 that are newly recited. Thus, new grounds of rejection have been used. See paragraphs 5-12 above.

For these reasons, the rejections based on An et al, and Nomura et al have been maintained.

***Conclusion***

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 8:00-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the Patent Application Information Retrieval system, see http://portal.uspto.gov/external/portal/pair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Nguyen
Patent Examiner
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KMN
June 9, 2005

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PRIMARY EXAMINER